

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

690 Walnut Ave.St. 150

Vallejo, CA 94592-1133

(707) 649-5453

(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 70.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002800**Date Inspected:** 02-Jun-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 800**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** Japan Steel Works**Location:** Muroran, Japan**CWI Name:** Chung-Fu Kuan**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower, Jacking and Deviation Saddles**Summary of Items Observed:**

The following report is based on METS observations at Japan Steel Works (JSW) in Muroran Japan. Current work: Casting, machining and nondestructive testing of Saddles.

Fabrication Shop 4

On this date the QA inspector, Joe Lanz traveled to JSW fabrication shop number 4 and observed there was no production performed on West Deviation Saddle Grillage W2E1. The assembly was rotated on the positioner to a flat position and preheating was started. The work was performed by three JSW personnel. The QA inspector observed there was no work performed on West Deviation Saddle Grillage W2E2.

Foundry

On this date the QA representative Joe Lanz traveled to JSW foundry to monitor the in process casting repair welding on West Deviation Saddle casting W2E1. The welding was performed to build up the thickness of the ribs in areas that were found to not meet the minimum thickness of the contract special provisions. The repair locations and repair details for this casting were submitted as number 000643, revision 02. The JSW welding personnel Mr. H. Sato, identified as number 69-2697 continued the in process repair welding of Rib 7L, repair 2-6, location C-11 and Mr. A. Takenami, identified as number 06-8001 continued the in process repair welding of Rib 2L, repair 3-8 location H-6 with both utilizing the Shielded Metal Arc Welding (SMAW) process per the welding procedure specification (WPS) SJ 3026-2. The welding was performed in the 2G (Horizontal) position. The filler metal utilized was identified as 4.8 mm diameter, Class E10016-G, Brand name LB-106. The minimum

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preheat temperature of 150 degrees Celsius and maximum interpass temperature of 260 degrees Celsius was verified to meet the WPS requirements by the QA inspector utilizing Tempilstik temperature indicators. The SMAW welding average amperage and voltage by clamp type meter and travel speed were verified to be within the welding procedure specification parameter range of 180 amps to 240 amps, 22 volts to 26 volts and travel speed of 115 to 280 mm per minute by the QA inspector. The repair on rib 7L, number 2-6 length is 550 mm, width is 70 mm and maximum depth is 2 mm with an area of 56 square centimeters and repair on rib 2L, number 3-8 length is 1,120 mm, width is 820 mm and maximum depth is 17 mm with an area of 9,184 square centimeters. The work was not completed on this date and appears to meet the minimum requirements of the welding procedure specification and contract documents.

Item	Weld Identification	Applicable WPS	CWI Name	Amperage	Voltage	TravelSpeed	Preheat Temp	Remarks
1	W2E1 / 7L	SJ-3026-2	N/A	215 AC	23.0 AC	200 mm/min.	180 C	H. Sato
2	W2E1 / 2L	SJ-3026-2	N/A	200 AC	22.5 AC	200 mm/min	180 C	A Takenami

Summary of Conversations:

On this date the QA inspector attended a meeting at Japan Steel Works Muroran facility. The QA inspector and METS personnel Mr. Ron Brasel met with JSW personnel Mr. Hiroshi Iga, General Manager and Mr. Kazunori Sato, Deputy Manager and Intertek Testing Services Certified Welding Inspectors Mr. Chung-Fu Kuan. The following issues were discussed.

- 1) Mr. Hiroshi Iga reported that the welding personnel Mr. K. Kabayashi, identified as 08-5023 had been qualified by welding a performance qualification test plate, but had not been submitted to Caltrans at this time. Mr. Iga stated that the welder would be submitted as an addendum to the Welding Quality Control Plan.
- 2) Mr. Kuan reported that 12 multi-layer tack welds on West Deviation Saddle Grillage W2E1 were found visually to be cracked. JSW was going to preheat the assembly overnight and perform 100% magnetic particle testing prior to starting welding.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Venkatesh Iyer, (858) 967-6363, who represents the Office of Structural Materials for your project.

Inspected By:	Lanz,Joe	Quality Assurance Inspector
Reviewed By:	Brasel,Ron	QA Reviewer